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THE ROLE OF PLANTS IN THE KAPU SYSTEM OF HAWAII

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Plants played an intimate role in the life of the ancient Hawaiians, who were closely bound to their natural environment and dependent upon the whims of nature. Since they had no written language and relied on tradition to preserve their culture, much of the Hawaiians' knowledge of the use of plants have been lost. What I attempt to do in this paper is to study the relationship of plants to the Hawaiian kapu system. Very little comprehensive literature is available on the kapu system itself, and information regarding the use of plants in the system is fragmentary. I have tried as much as possible to include only plants which were specifically mentioned as being part of the kapu system. I have omitted material when references were obscure and further information was unobtainable.

Hawaiian legend attributes to Wakea (the progenitor of the Hawaiian race) the creation of the kapu system. David Malo (1903) said that "the motive of the tabu [kapu] restricting eating was the desire on the part of Wakea to keep secret his incestuous intercourse with Hoo-hoku-ka-lani [his daughter]. For this reason he devised a plan by which he might escape the observation of Papa [his wife]; and he accordingly appointed certain nights for prayer and religious observance, and at the same time tabued certain articles of food to women.

The kapu system, like the systems first instituted in the Nile and Tigris

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1/ The author is a University of Hawaii student who prepared this paper while taking the course in Ethnobotany from Beatrice Krauss.

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and Euphrates valleys, had a religious significance at its core. A. Grove Day writes that the system represented the idea of a dualism in nature. Some things were thought to be sacred--namely, the male principle, light and life. Other things were thought to be common--namely, the female principle, darkness and death. "Whatever was branded as kapu was forbidden either because it was divine and therefore to be set aside from what was vulgar and common, or else it was corrupt, and thus dangerous to both the common and the divine," (Day, 1960). The Kapus, therefore, were instituted to protect the Hawaiians against "spiritual debasement or defilement," (Handy et al, 1933). Things identified with the gods were considered sacred, and therefore kapu. Thus priests, temples, religious ceremonies and certain plants were kapu. Chiefs, as descendants of the gods, were also kapu. Sickness and death were kapu. Women, who were associated with the "negative principle," were subjected to additional kapus.

Disregard of the kapus resulted in death. The penalty for breaking a kapu was usually death by beating, drowing, or strangulation. The task of executing the offenders was given to the public executioner, the "mu," who, in the last case, strangled his victims with a looped plaited cord, often made of olona fiber (Buck, 1957).

No doubt plants played an important role in every facet of the Hawaiians' lives. In the kapu system, I can distinguish some ways in which plants were used: 1) in relation to the kapus of the gods, 2) in reinforcing the status of the chiefs (some of whom had the status of gods), 3) in social control (kapus for women, conservation), and 4) in ceremonies for the dead.

Religious ceremonies of the Hawaiians to honor the gods were regulated by strict ritual. When a new heiau was built, elaborate ceremonies lasting many days were carried out. The idol for the heiau (like Christian statues, idols were intended only to represent the gods) was carved out of the ohia lehua. A member of the United States Exploring Expedition, Captain Wilkes, in describing the ritual in constructing a new heiau during the reign of Kamehameha, said: "On the second day, they go to the mountains in search of the okea / ohia lehua / idol, when a man was killed: at the time of the cutting down the okea / ohia lehua / tree the priest prayed for land, and the sacrifice was offered, with a hog and tapas, and the image carved; the direction in which the tree fell, land was sought for, and the people on it were stripped of all they had and killed;...." (Degener, 1930).

The hula also had a deep religious significance, and plants played a vital role in the ritual surrounding the training of hula dancers. Prior to the period of training, a site was selected for the training structures (called halau), then purified by the sprinkling of a mixture of turmeric (olena) or red clay and sea water. An altar dedicated to Laka (goddess of the hula) was set up on one of the buildings. The altar was decorated by the trainees with flowering branches of ieie, maile, ohia lehua, hau, breadfruit, banana, la-i, aalii, and ilima (plants sacred to the gods). Following that, an uncarved block of the lama wrapped in yellow kapa scented with the turmeric was placed on the altar. This bundle represented Laka. A bowl of awa was subsequently placed on the altar daily during the training period (Degener, 1930).

Plants sacred to the gods were used often in religious ceremonies. Special chants had to be recited in many cases before the plant was picked (for example, before one could pick the ieie, a prayer to the gods had to be offered). The olena was used extensively "to purify places, things and people" (Neal, 1948). One kapu-lifting prayer to the god of husbandry goes: "The taro is luxuriant; like the banana sten are the stalks of the taro; the leaves of our taro are as large as the banana" (Neal, 1948). A visitor to the home of Pele was "always supposed to tear off a branch of berry-bearing ohelo [which was sacred to the goddess], throw half of it into the crater and proclaim: 'Pele, here are your ohelos; I offer some to you, some I also eat.'" Only then could one eat of the berries (Day, 1960). A kapu-lifting prayer that was used by hula dancers mentions the maile, which was said to be either one of the manifestations or one of the symbols of Laka:

Oh wildwood bouquet, oh Laka
Hers are the growths that stand here.
Suppliants we to Laka.
The Prayer to Laka has power;
The maile of Laka stands to the fore
The maile vine now casts its seeds. (Neal, 1948).

The kapu was also used by the Hawaiians to reinforce the status of the chiefs. Like the Kahunas, the chiefly class had its own divisions and levels of importance. David Malo distinguishes among them in his Hawaiian Antiquities, and attributes different levels of kapu to the different ranks. The highest chief who had the "kapu-moe" was so sacred that he often would go out only at night, since during the day all must throw themselves on the ground before him. Even so, the people had to prostrate themselves whenever anything of his passed by (for example, his clothing and his food) (Malo, 1903). A young chief who was of high rank would be taken from his home and brought up in seclusion in a sacred place. No one who ate coconut or whose garments were greasy with the oil of the coconut was permitted to enter that sacred place.(Fornander, 1918-19). A favored child may be given a bowl ('umeke mana 'ai) after weaning for his sole use. The bowl was kapu to the child, and was often made out of kou (which in some cases was made from a tree grown over the afterbirths of his grandparents) (Buck, 1957). The chiefs, although they had no power to change the religious kapus, those of the gods, and those concerning eating practices, had the power to declare temporary kapus. These could be instituted for good reasons, or merely out of whim. Chiefs often levied a kapu on certain plants for their own use. A poem by Keaulumoku predicting the victory of Kamehameha entitled "Fallen Is the Chief" describes a kapu placed on awa (awa was used extensively in ancient Hawaii by all classes, especially by the hard-working lower classes, to whom it brought needed relief):

Kona sits undisturbed as in a calm.
Kona is under a kapu respecting awa,
  they are in pleasure together
For the chief's sake, for Paiea, for Liloa [Kamehameha]
. . . . . .
The conch proclaiming a kapu is sounded,
The kapu of the chief is determined on,

> The sound rings through Kona, the awa is kapu;
> The awa kapu by the chief, the kapu of the chief. (Fornander, 1918-19).

If a chief placed a kapu on a field of plants, a stick of sugar cane was placed in the corner of the field, warning the common people that it was kapu (Degener, 1930). If a piece of white kapa on a stick was set in a path, it was a warning against trespassing; if the kapa was wrapped around the trunk of a tree, then the fruits of the tree were kapu (Degener, 1930).

Of all the kapus relating to plants, those prohibiting women from eating certain foods are most well known. As mentioned previously, the kapus are thought to originate from the earliest times (i.e., the time of Wakea). Among other foods, women were prohibited from eating bananas, coconuts, and breadfruit grown on plantations. The explanation for the kapu can possibly be that these fruits were sacred to the gods. If women, who were inferior (profane, common), ate these fruits, the gods would be offended. The banana tree was thought to be the body of Kanaloa by the Hawaiians; and the coconut tree, the body of Ku (Handy and Pukui, 1958). The penalty for disobedience of this kapu was death. In one case, described by a missionary school teacher, the offender was not killed:

> I had a scholar about eight years of age. Her erect figure, clear smooth skin, regular features, slightly curling hair, and full black eye, with the long black fringes of its covering made her a good specimen of the loveliness of childhood.
>
> But the beauty of that fine production of nature was marred by violence. The ball of her right eye had been scooped out entirely, ...
>
> "My child, how did you lose your eye?"
>
> "I ate a banana."
>
> She could not have been more than five years old when the idols were destroyed. Had she been of mature years, her life would have been taken. (Thurston, 1934).

Rank, however, did have its privileges. A pair more fortunate were Keoua and Kapiolani, who were young girls of the highest rank. Thinking that they were unwatched, they crept into the ocean to eat the forbidden banana. They were discovered, but because of their rank, their tutor was executed by drowning instead (Degener, 1930).

A highly beneficial use of the kapu in relation to plants is that of conservation. These kapus were either temporary, to conserve food in times of famine for example, or they were periodical. E. S. Craighill Handy (1940) describes a kapu in the cultivation of potatoes: when the potato tubers are beginning to develop, the smaller potatoes are unearthed by hand, and the larger ones are left to mature. He adds at this point that potatoes should be left alone during the period of maturation. The Hawaiians evidently knew this, since they placed a kapu on the patch after the small tubers were harvested. During the length of the kapu (the time in which the potato matured) no one

was allowed in the patch. After the influx of foreigners and the discovery that a profitable trade in sandalwood could be carried on with Canton, Kamehameha insured the availability and continuation of supply by placing a kapu on the young sandalwood trees. After his death, the kapu was abolished. Wholesale cutting of trees and foolish practices (the Oahu plain was burned in order to detect locations of sandalwood) depleted the supply of sandalwood (Day, 1960).

One of the uses of plants in conservation was that of marking fishing areas which were kapu. Different varieties of fish were kapu during specific seasons in deference to Kuula, the fish god. The time of kapu, moreover, was simultaneous with the spawning seasons. At other times, a kapu was laid at the command of the king or landlord. In order to indicate that a kapu was in effect, hau branches were placed along the seashore. Removal of the branches signified the removal of the kapu (Degener, 1930). Another plant which was used to signify kapu fishing grounds was the coconut (Handy et al, 1933). Seaweeds were also kapu during certain times of the year, since they served as food for fish.

Hau branches were also used to signify a kapu on squid fishing. The hau branch would be placed during January or February. The kapu lasted for about four to six months following the placement of the branches. Toward the end of the closed season, watchmen would be stationed on the seashore to look for favorable signs. When they decided that the season could be opened, the hau branches were removed, and the population went down to the ocean to celebrate in a community squid hunt (Buck, 1957).

After a person died, a kapu was placed on the house of the dead person, on his relatives living in the house, and on the food of the kapu relatives until the body had been disposed. The period of the kapu lasted one or two days for a commoner and ten days or more for a chief. If a person came into contact with the food of the kapu relatives, he also became kapu. He remained kapu until cleansed by a priest. After disposal of the body, the bearers washed themselves in fresh water and was sprinkled with a mixture of salt water and seaweed or turmeric (Buck, 1957).

Quite obviously, much more research needs to be done to develop a systematic study of the uses of plants in the kapu system. Further study can be done on: the plants sacred to the gods, and the ceremonies connected with them; the uses of plants as signs of kapu; the uses of plants in religious ceremonies; the use (or prevention of use) of plants to signify social status; the use of plants in ceremonies connected with death and illness.

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BOOK REVIEW

A. C. Smith

Botanico-Periodicum-Huntianum. Edited by George H. M. Lawrence, A. F. Günther Buchheim, Gilbert S. Daniels, and Helmut Dolezal. 1063 pp. Hunt Botanical Library, Pittsburgh, Pa. 1966. $30.00 (Distributed by S-H Service Agency, Inc., 31 E. 10th St., New York, N. Y. 10003.)

Few aspects of editorial technique in the botanical field have resulted in such a profusion of usages as the abbreviation of periodical titles. At least until recently, every editor of a botanical periodical seemed to have his own pet system of devising abbreviations - a system, needless to say, at variance with that of his authors. In the taxonomic field, where literally hundreds of literature abbreviations occur throughout a paper of moderate length, such disagreement on periodical abbreviations has often resulted in irritated sensibilities, bewilderment, and even downright confusion.

Heroic attempts have been made to remedy the situation, among them such lists as those of Schwarten & Rickett (Abbreviations of titles in serials cited by botanists. Bull. Torrey Bot. Club 85:277 - 300. 1958; op. cit. 88: 1 - 10. 1961), the American Standards Association (American Standard for Periodical Title Abbreviations. 1964), and the Biological Council (Abbreviated Titles of Biological Journals, ed. 3. 1968). The Style Manual for Biological Journals (ed. 2. 1964) prepared for the American Institute of Biological Sciences also recommends abbreviations.

However, neither these works nor any others approach in scope the comprehensive undertaking of the Hunt Botanical Library. The Botanico-Periodicum-Huntianum (designated by its editors as B-P-H) is a compendium that attempts to provide a single set of unambiguous abbreviations for more than 12,000 titles of periodicals that contain papers of botanical interest. The coverage is astonishingly wide, including not only strictly botanical periodicals, but also those dealing with tangential fields - agriculture, forestry, plant breeding, microbiology, paleontology, pharmacology, and plant pathology among others. The period covered, 1646 to 1966, is ambitious but imperative.

A concise introduction of 13 pages provides the rationale of the work and explains its use, indicating how titles of periodicals are listed (and this is consistently followed in the text in very satisfactory detail), how place of publication is recorded, how volumation and dates of publication are handled, and how alternative abbreviations are cross-referenced.

Of the two appendices, the first (pp. 1005 - 1047) lists the word-abbreviations utilized in the text. These were selected after an extensive study of the world's leading botanical reference works, and they represent a consensus of opinion reached by the editors after long deliberation and consultation. The abbreviations will doubtless not please every user in every instance, but they represent careful judgment and should, in this reviewer's opinion, be accepted as the appropriate standard by the world botanical community. By adopting the

suggestions of this appendix, a user may appropriately abbreviate a periodical not listed by B-P-H. Omissions, however, will certainly prove very few, except of course for periodicals initiated too recently for inclusion.

The second appendix (pp. 1049 - 1063) takes up the complex matter of political chronology. In the text, the place of publication is given for the first volume of each periodical. Because the names of cities and nations change, as do their boundaries, the reader will appreciate the politico-geographic asides of this appendix and of the incorporated list of geographical name equivalents.

The main portion of the text is the periodical listing (pp. 25 - 1003); this was produced by photo-offset lithography from a computer-produced print-out. That computer print-out systems have improved in recent years is here demonstrated by the use of a special 120-character type font that provides not only capital and lower case letters, but also the conventional accent marks required for the more than 45 languages represented. This alone will indicate that the greatest pains have been taken to insure accuracy. Titles not in a roman alphabet are transliterated, with conventional accent and diacritical marks where required.

The sequence of periodical titles is alphabetical in accord with the adopted abbreviations. Thus a full title, with details of volumation, dates of publication, changes in title throughout the years, city of first publication, and location of the entry in the Union List of Serials, appears only once. The more than 12,000 accepted abbreviations are underlined, but about 12,000 others (as used in standard bibliographies and other reference works) are also alphabetically listed and cross-referenced to the adopted abbreviation. Thus it is a simple matter to find, from any reasonable abbreviation at hand, the recommended abbreviation and a wealth of detail about the periodical in question.

Abbreviations for periodicals are intentionally made so complete that they will lead anyone to the title itself. In principle this is certainly praiseworthy and will be appreciated by all users who have attempted to decipher enigmatic abbreviations. But this application of firm principles will perhaps lead to dissatisfaction in a few instances. As an example, geographic names in general are not abbreviated, and one of our local periodicals is appropriately listed as Pacific Sci. rather than Pac. Sci. Nevertheless, one wonders if all taxonomic editors will be happy with Ann. Missouri Bot. Gard. instead of the time-honored Ann. Mo. Bot. Gard. Personal names are not abbreviated, and this is doubtless a good principle in such a title as J. Arnold Arbor. (rather than, for instance, J. Arn. Arb.) for the Journal of the Arnold Arboretum. But on the local scene we may question the full use of the title of our Museum in such adopted abbreviations as Bernice P. Bishop Mus. Bull. and Occas. Pap. Bernice Pauaki Bishop Mus.; the taxonomist who may cite these periodicals dozens of times in a single paper may be excused for assuming that his reader will understand Bishop Mus.

Another example of a questionable decision is the adoption of Bot. Gaz. (Crawfordsville) for the well known Botanical Gazette, published since 1875, merely because of another Bot. Gaz. (London) for a periodical that ceased after only three volumes in 1849-51. In this instance it seems that Bot. Gaz. would be adequate for the better known journal. Similarly, Bot. Jahrb. Syst. seems inappropriate for the often cited journal published continuously since 1881,

in spite of the competition offered by Bot. Jahrb. Jedermann for a periodical with a single volume published in 1799. A precedent for omitting the third word in the abbreviation for the better known offsuch titles is found in the B-P-H use of J. Bot. for "the" Journal of Botany published in London. Six additional periodicals are also assigned the use of J. Bot. but in each case with parenthetical mention of an editor or a city of publication. Similarly Bot. Mag. is adopted for the "the" Botanical Magazine, first edited by William Curtis; lesser known Bot. Mags. are assigned a parenthetical means of identification. So why not Bot. Gaz. and Bot. Jahrb.?

However, these are mere quibbles, and every user will find some detail of abbreviation not quite in line with his own predilections. My advice to botanists is to put aside such prejudices and use without reservation the abbreviations adopted by B-P-H. For the first time we have a carefully considered and comprehensible abbreviation for every periodical likely to be encountered in our work. Some titles, to be sure, do not lend themselves to a very concise abbreviation. We may note that one of our local periodicals is to be cited as Hawaii Agric. Exp. Sta. Univ. Hawaii Techn. Bull.; the compilers of B-P-H cannot be blamed for this, but it is surely an eloquent argument for one-word titles. We are glad to note that our own periodical made the listing in this "what's what in botanical literature" with the reasonably concise Newslett. Hawaiian Bot. Soc.

For readers unacquainted with that unique institution, the Rachel McMasters Miller Hunt Botanical Library was assembled by Mrs. Hunt during an active lifetime of interest in the art, history, science, and literature that relate to plants and gardening. Transferred to the Carnegie Institute of Technology (now Carnegie-Mellon University) in Pittsburgh in 1961, the Hunt Botanical Library occupies part of that institution's Hunt Library building. Under the directorship of George H. M. Lawrence, the Hunt Botanical Library has developed into a significant institute for bibliographical research in the literature of botany and horticulture. Its publications have already attained the highest standards of scholarship and printing quality, but its major undertaking will be the production of a multi-volume encyclopedic work on the botanical literature of the period 1730-1840, to be entitled Bibliographia Huntiana. The presently reviewed work, B-P-H, is a byproduct of the basic studies essential to the Bibliographia. Writers and editors in all areas of biology, and especially those in the fields of botany and horticulture, are most fortunate that the coverage of B-P-H was extended beyond the dates of the Library's prime concern. The work is of much greater value because of the inclusion of a vast number of periodicals over three centuries of time.

The botanical community, and all other individuals interested in any phase of plant life, may offer sincere congratulations to the editors and publishers of this compendium of unsurpassed value. It has a place in every library where scholarship is allied to an interest in the plant sciences.

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